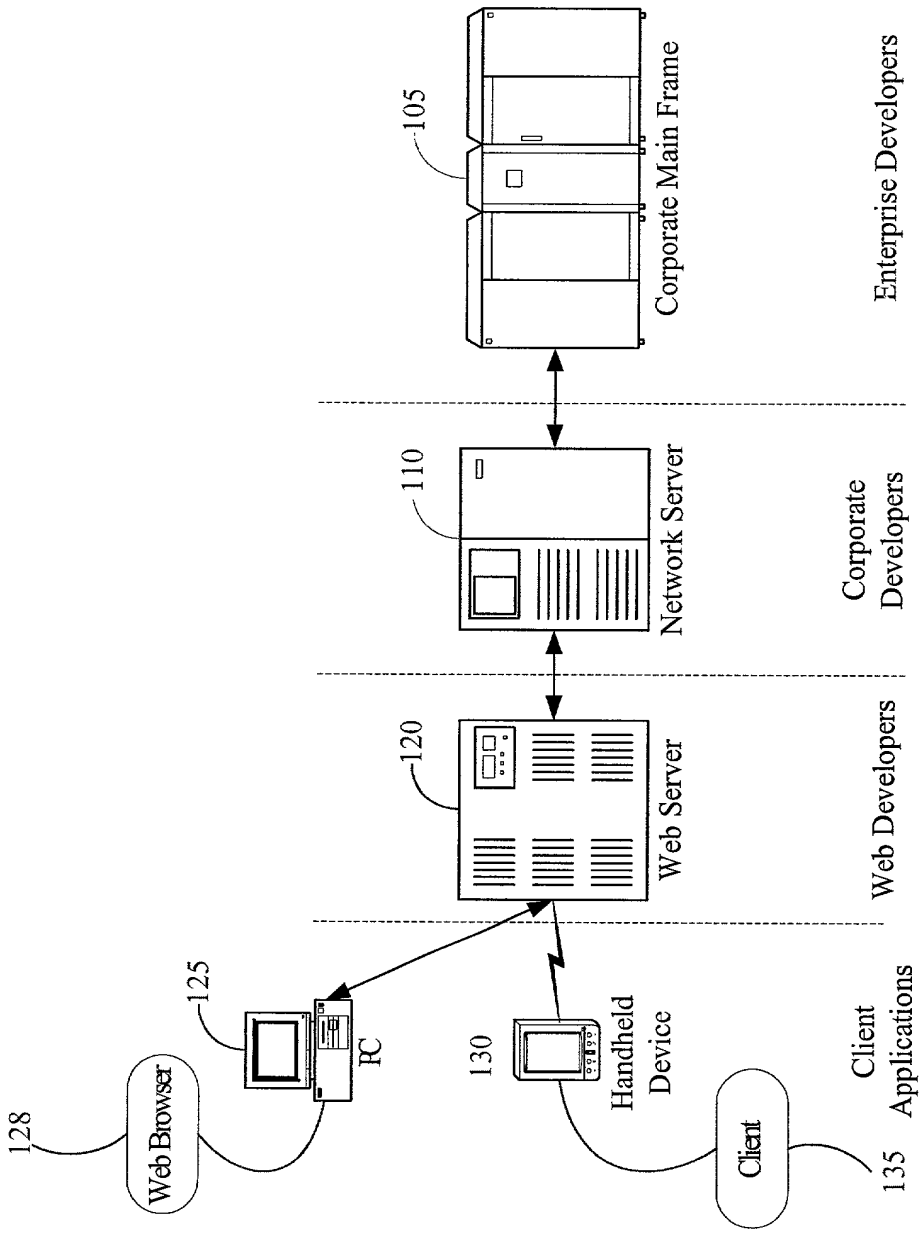
105
Corporate Main Frame
Enterprise Developers
110
Network Server
Corporate Developers
120
Web Server
Web Developers
125
PC
130
Handheld Device
Client Applications
128
Web Browser
Client
135

FIGURE 1

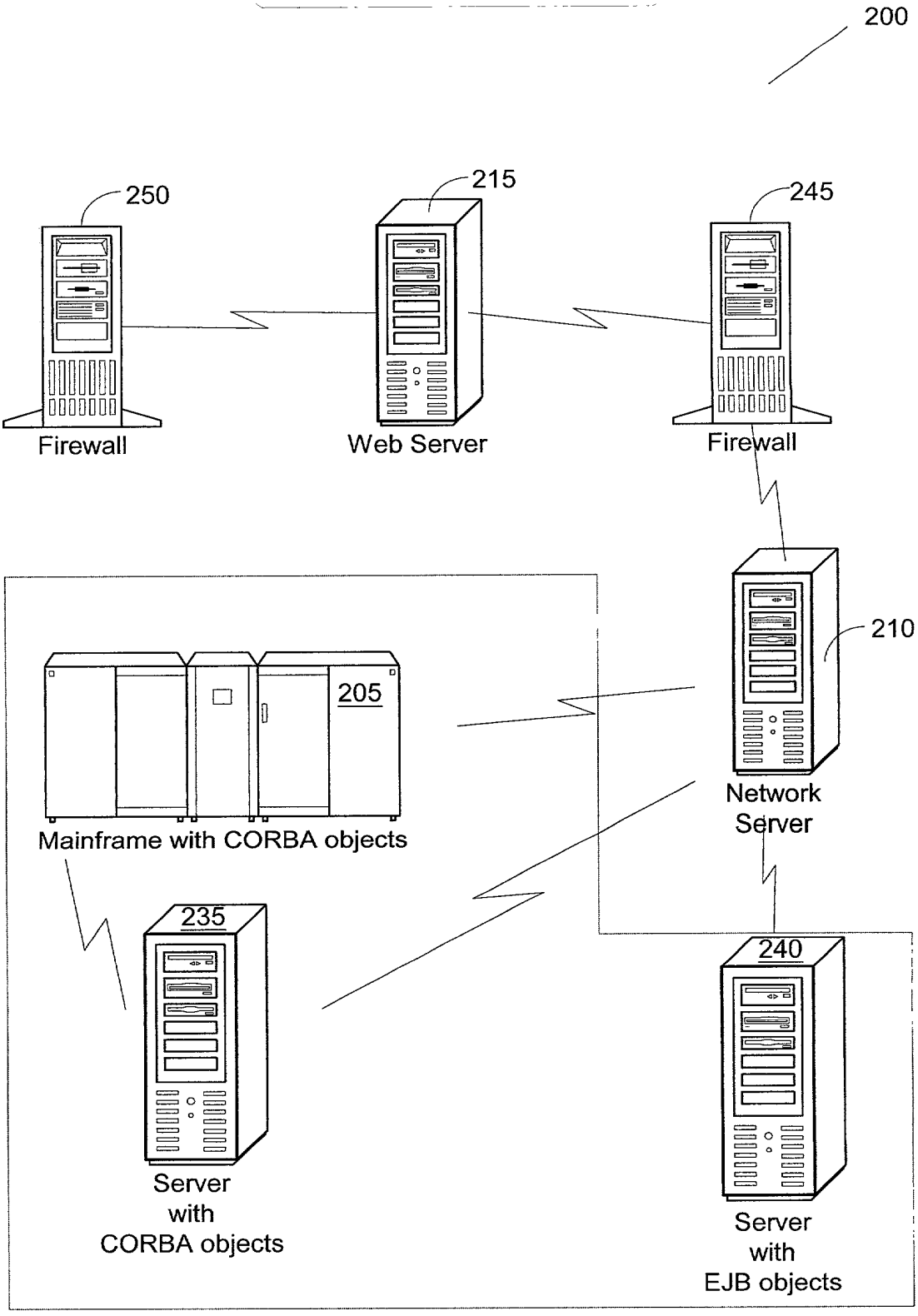
200
250
215
245
Firewall
Web Server
Firewall
210
205
Mainframe with CORBA objects
Network Server
235
240
Server with CORBA objects
Server with EJB objects

FIGURE 2

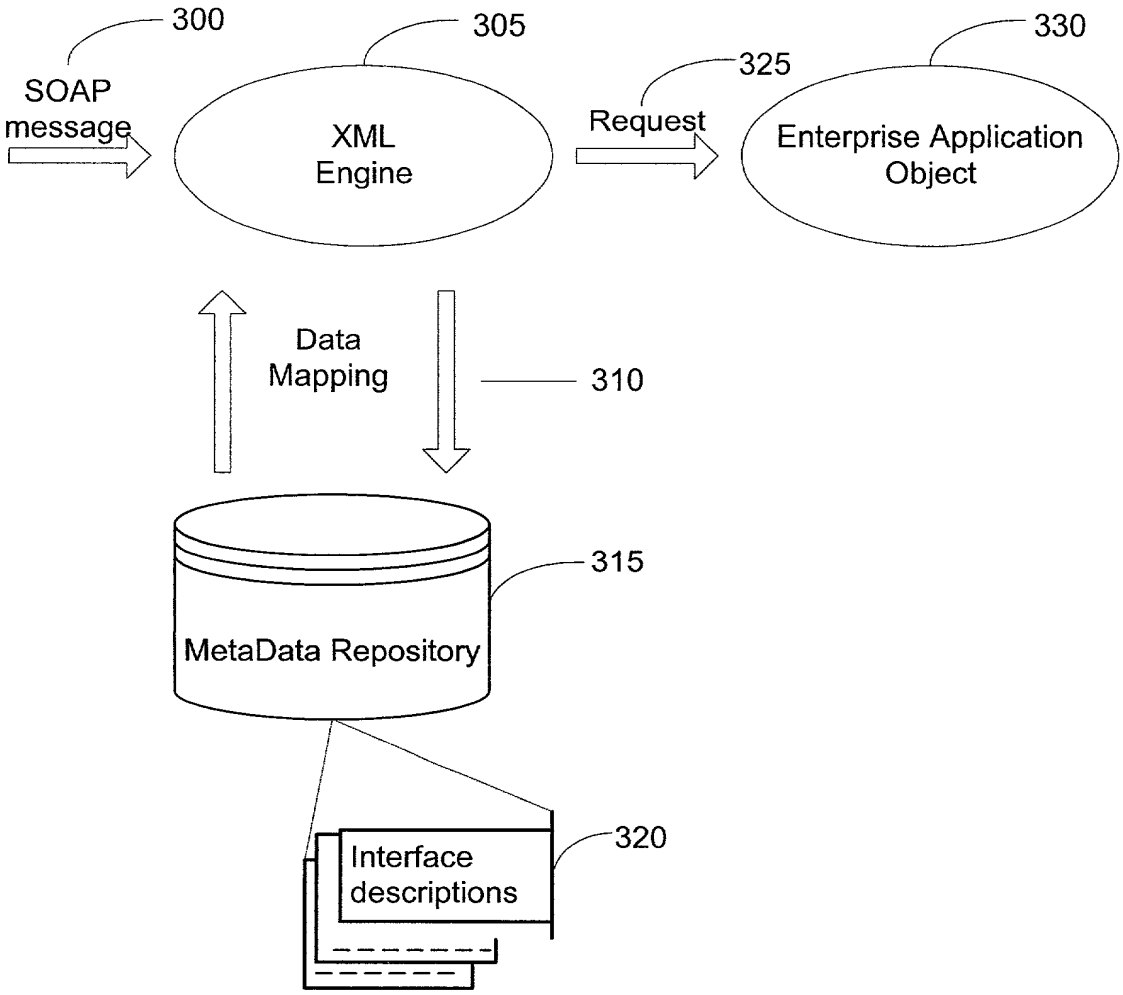
300
305
330
325
SOAP
message
XML
Engine
Request
Enterprise Application
Object
Data
Mapping
310
315
MetaData Repository
320
Interface
descriptions

FIGURE 3

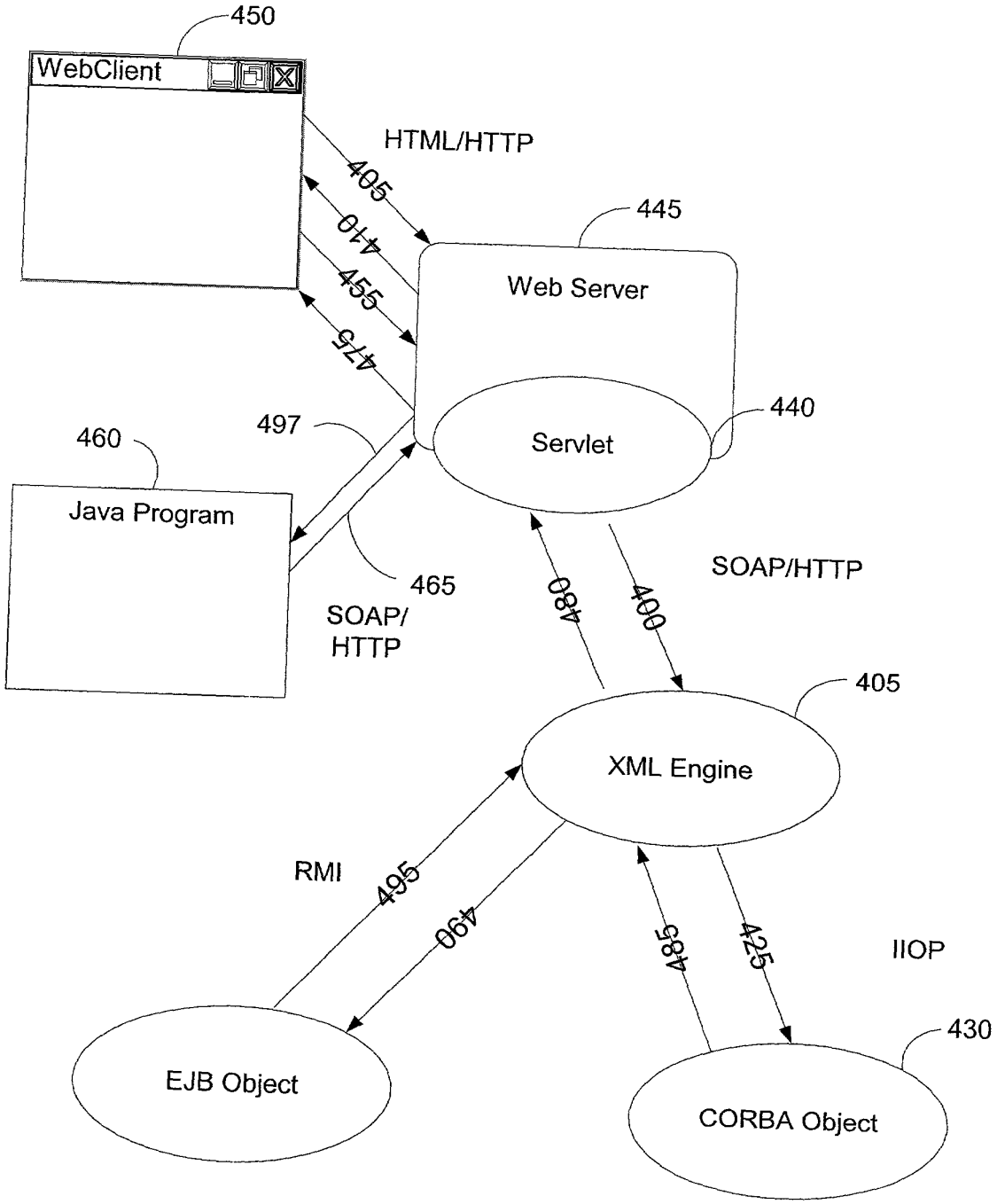
450
WebClient
HTML/HTTP
405
410
455
475
445
Web Server
440
Servlet
497
460
Java Program
465
SOAP/
HTTP
480
400
SOAP/HTTP
405
XML Engine
RMI
495
490
485
425
IIOP
430
EJB Object
CORBA Object

FIGURE 4

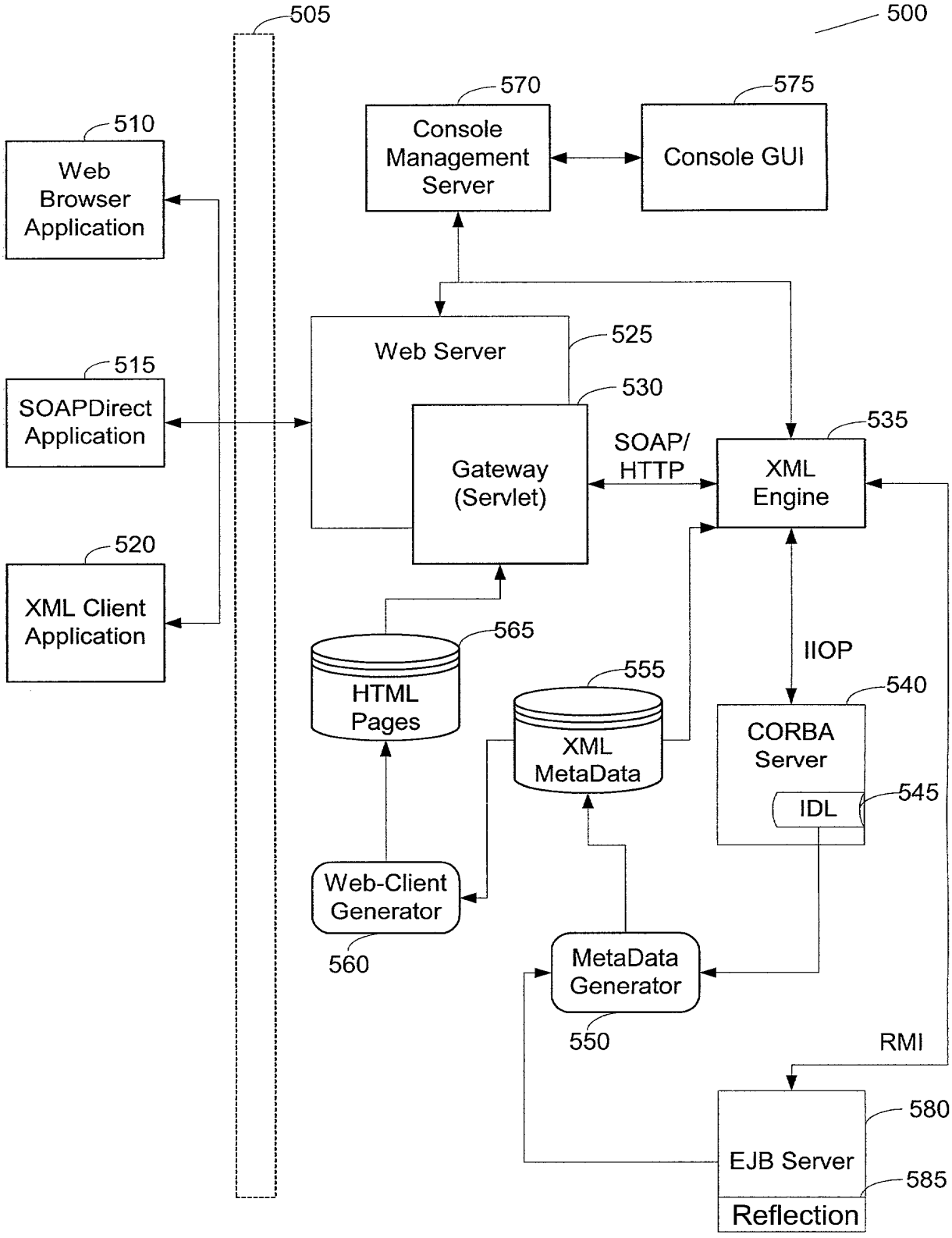
505
500
570
575
510
Console Management Server
Console GUI
Web Browser Application
Web Server
525
515
530
SOAPDirect Application
Gateway (Servlet)
SOAP/ HTTP
535
XML Engine
520
XML Client Application
565
IIOP
555
540
HTML Pages
XML MetaData
CORBA Server
545
IDL
Web-Client Generator
560
MetaData Generator
550
RMI
580
EJB Server
585
Reflection

FIGURE 5

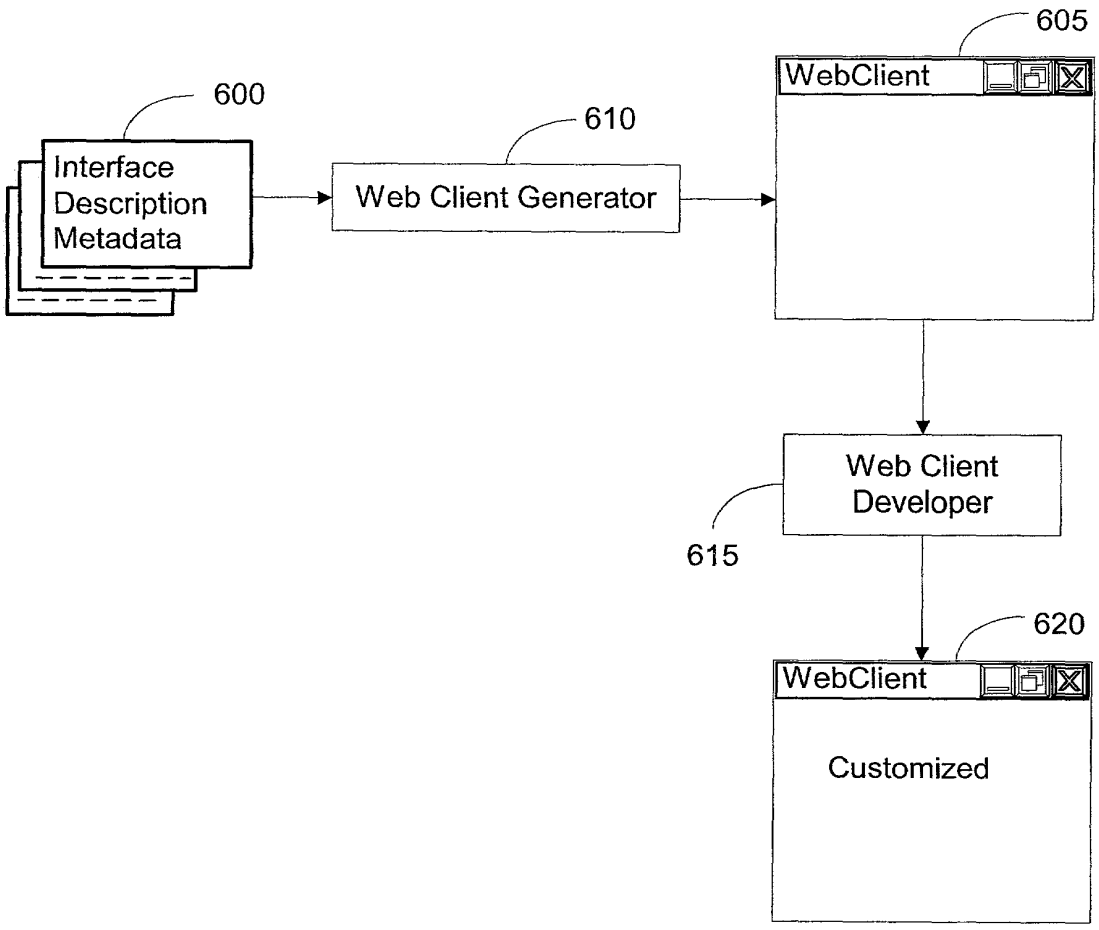
605
WebClient
600
610
Interface Description Metadata
Web Client Generator
Web Client Developer
615
620
WebClient
Customized

FIGURE 6

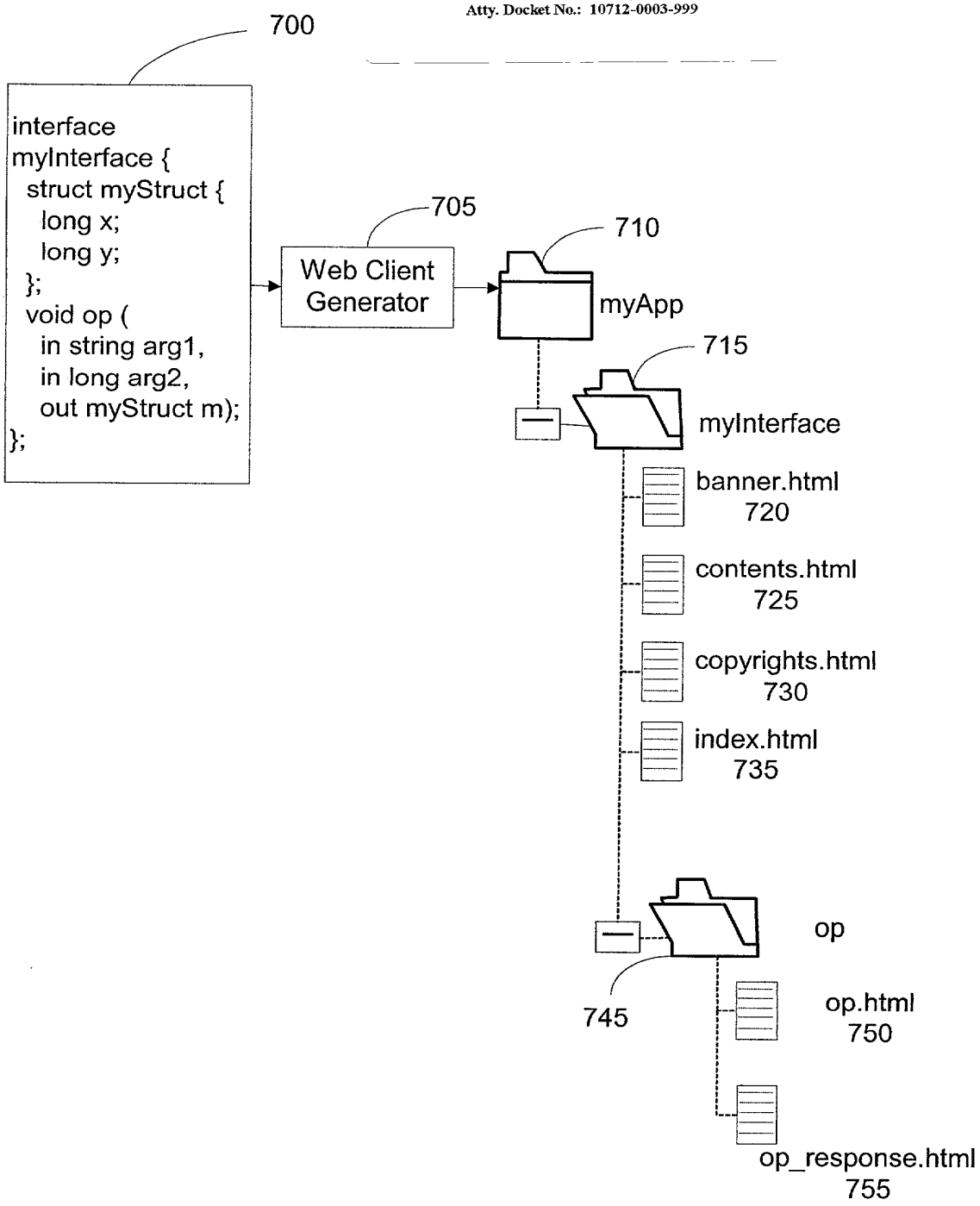
700
interface
myInterface {
struct myStruct {
long x;
long y;
};
void op (
in string arg1,
in long arg2,
out myStruct m);
};
705
Web Client Generator
710
myApp
715
myInterface
banner.html
720
contents.html
725
copyrights.html
730
index.html
735
op
745
op.html
750
op_response.html
755

FIGURE 7

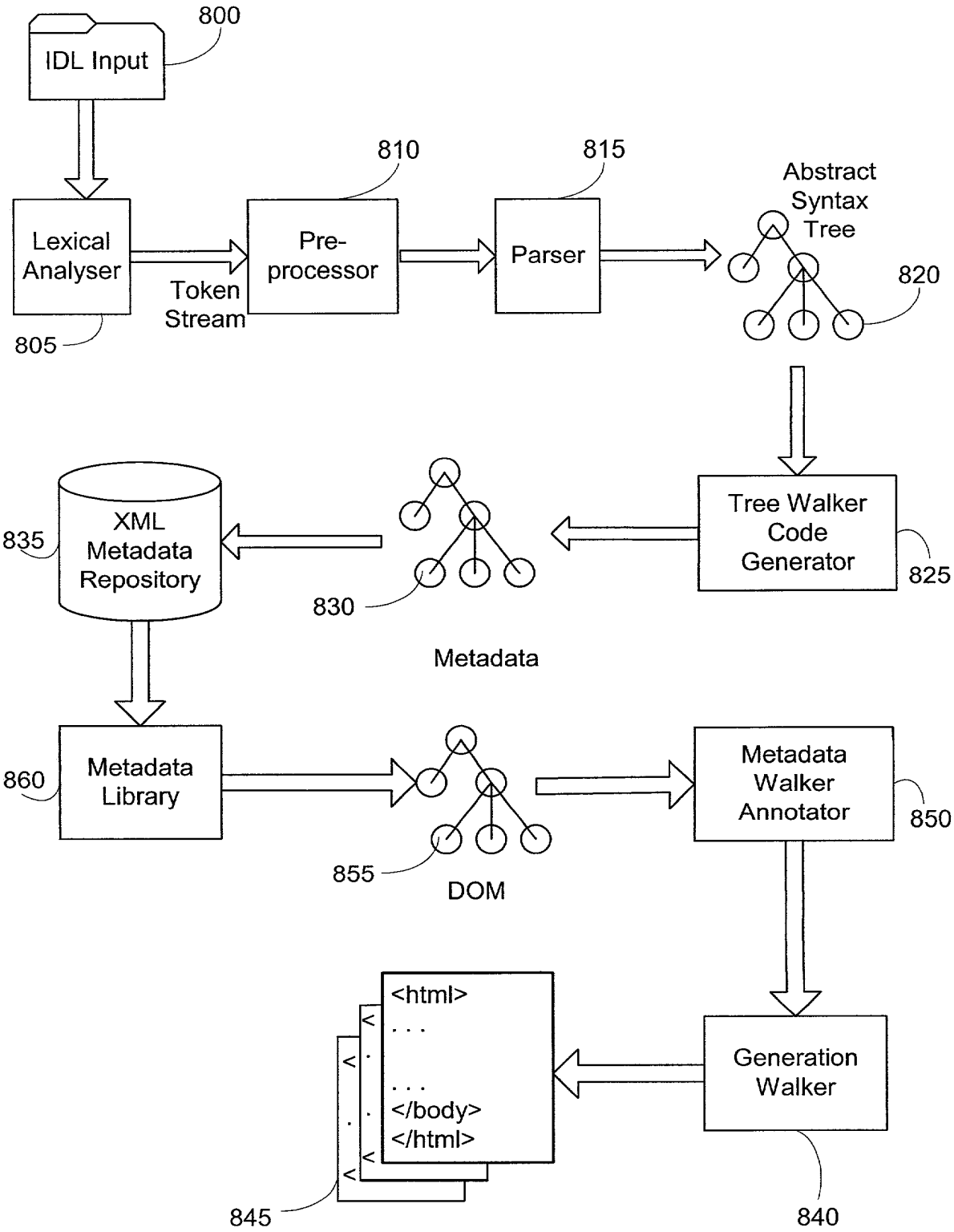
800
IDL Input
Lexical Analyser
805
Token Stream
810
Pre-processor
815
Parser
Abstract Syntax Tree
820
Tree Walker Code Generator
825
XML Metadata Repository
835
830
Metadata
Metadata Library
860
855
DOM
Metadata Walker Annotator
850
<html>
. . .
. . .
</body>
</html>
845
Generation Walker
840

FIGURE 8

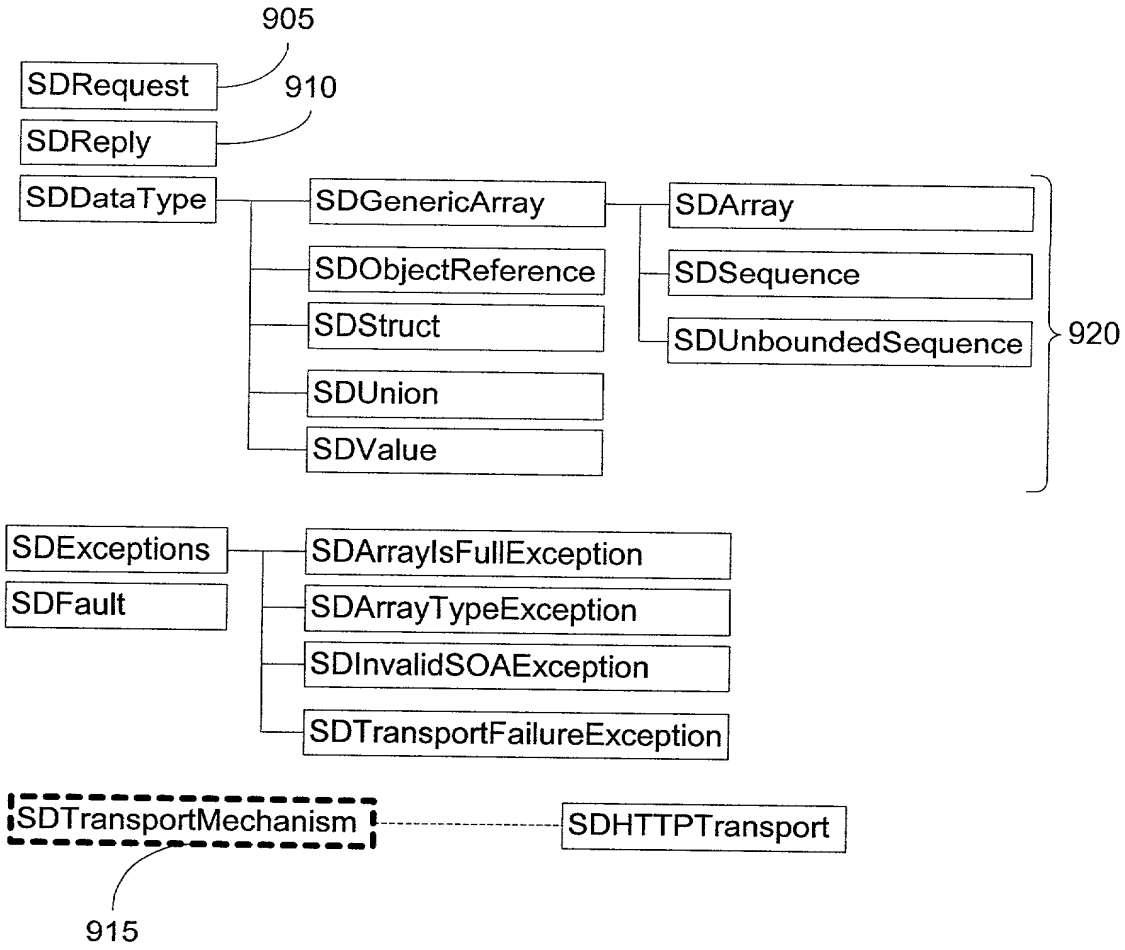
905
SDRequest
910
SDReply
SDDataType
SDGenericArray
SDArray
SDSequence
SDUnboundedSequence
920
SDObjectReference
SDStruct
SDUnion
SDValue
SDExceptions
SDFault
SDArrayIsFullException
SDArrayTypeException
SDInvalidSOAException
SDTransportFailureException
SDTransportMechanism
SDHTTPTransport
915

FIGURE 9

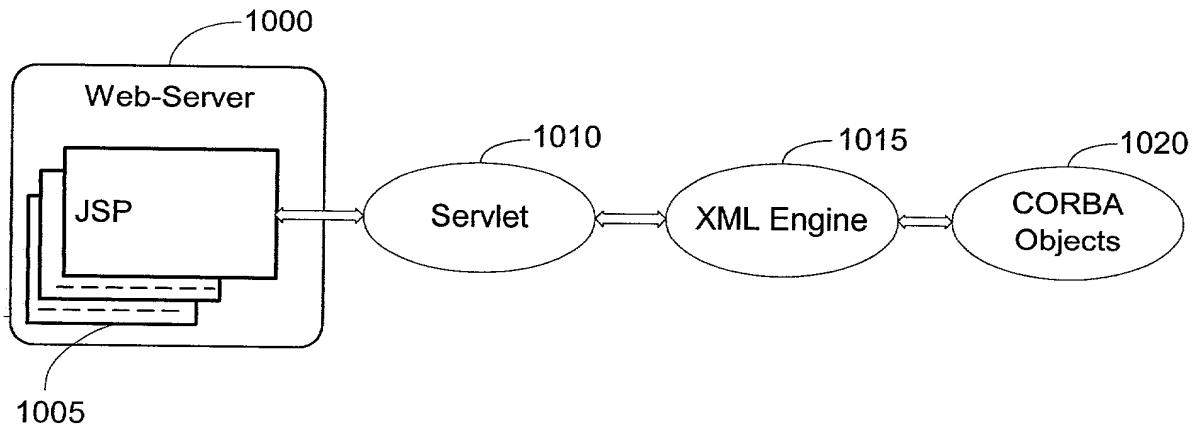
1000
Web-Server
JSP
1005
1010
Servlet
1015
XML Engine
1020
CORBA Objects

FIGURE 10

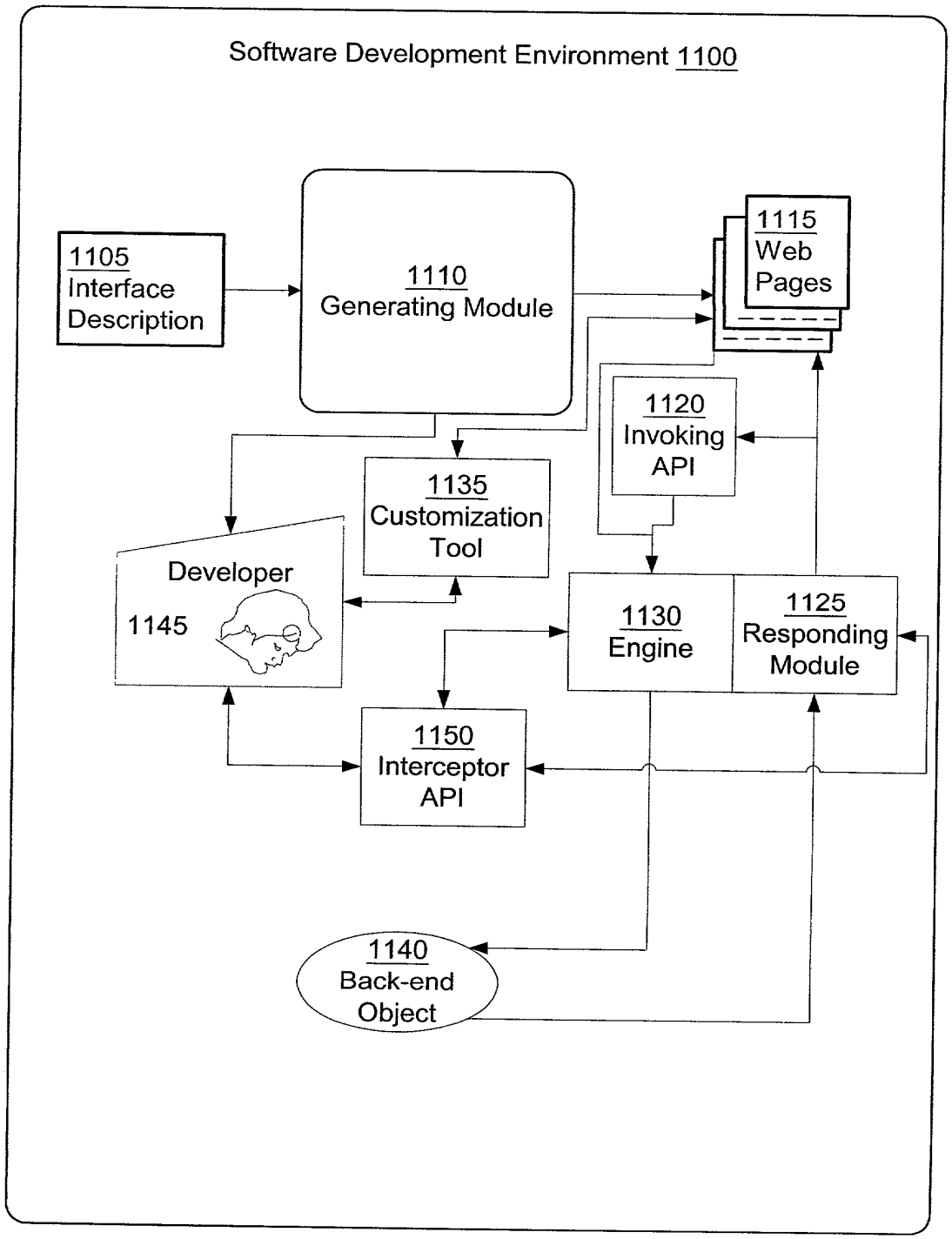
Software Development Environment 1100
1105 Interface Description
1110 Generating Module
1115 Web Pages
1120 Invoking API
1135 Customization Tool
Developer
1145
1130 Engine
1125 Responding Module
1150 Interceptor API
1140 Back-end Object

FIGURE 11

20020174430

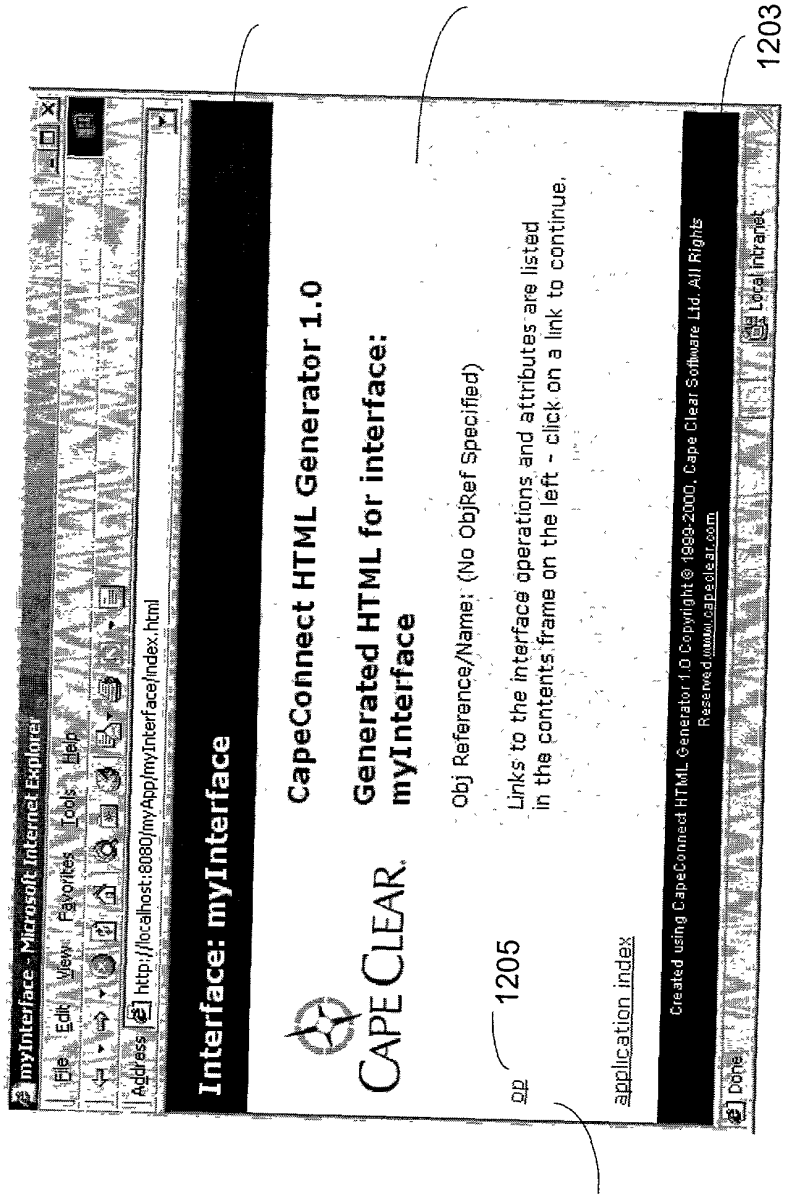

FIGURE 12

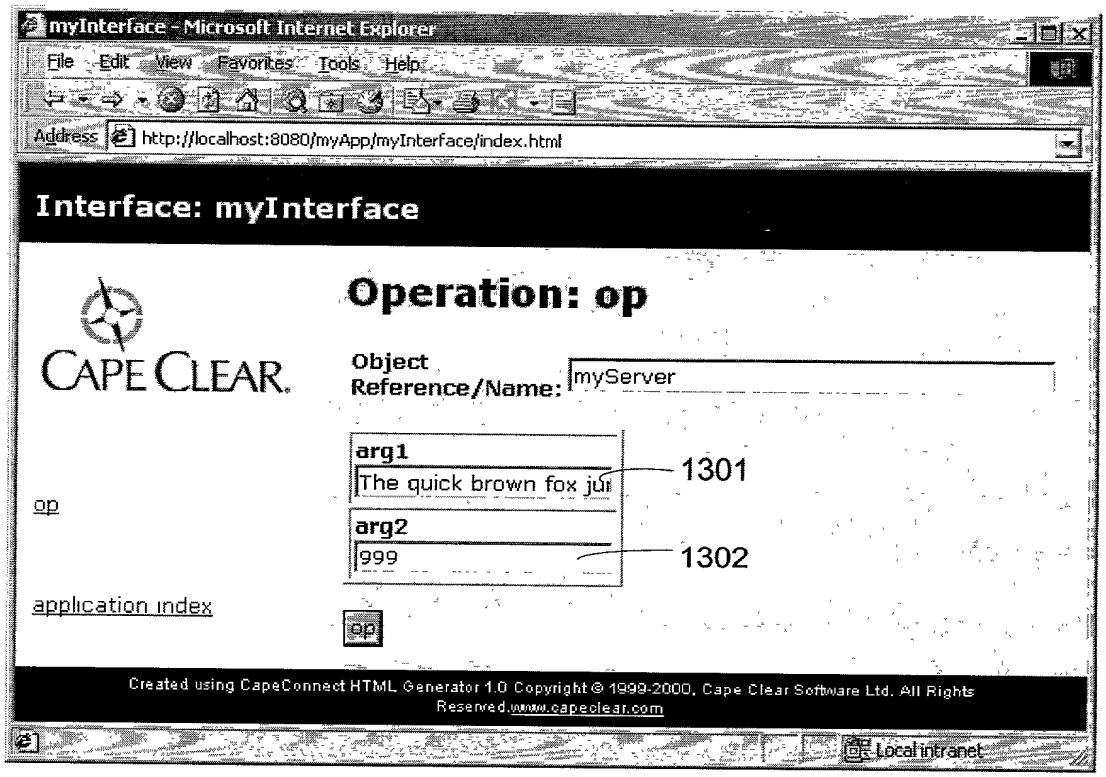
myInterface - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address http://localhost:8080/myApp/myInterface/index.html
Interface: myInterface
Operation: op
CAPE CLEAR
Object Reference/Name:
myServer
arg1
The quick brown fox ju
1301
arg2
999
1302
op
application index
op
Created using CapeConnect HTML Generator 1.0 Copyright © 1999-2000, Cape Clear Software Ltd. All Rights Reserved. www.capeclear.com
Local intranet

Figure 13

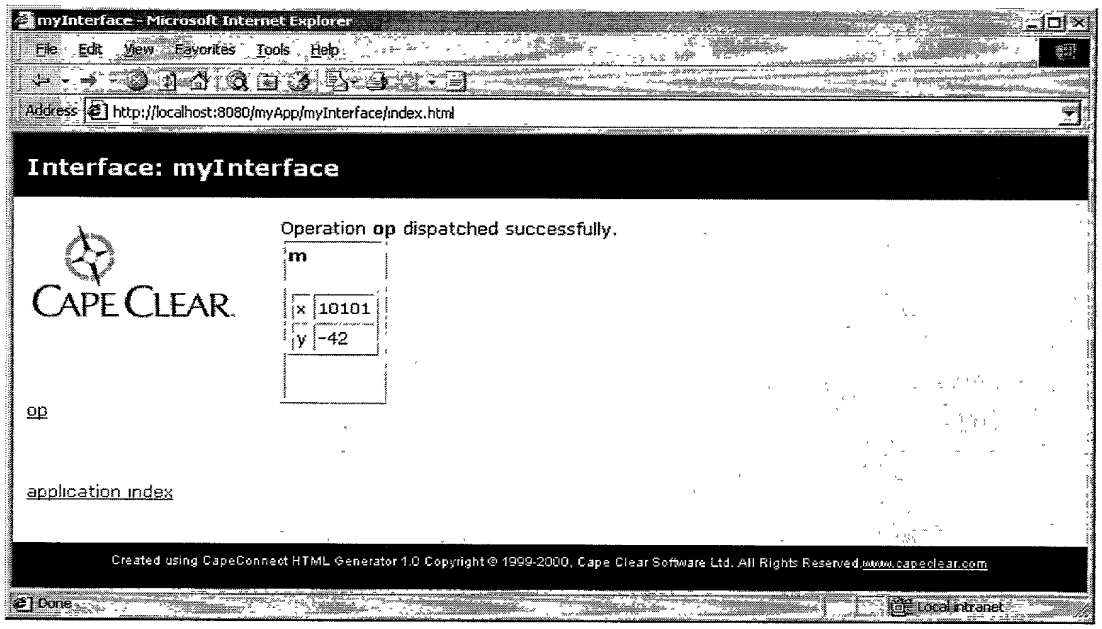
myInterface - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address http://localhost:8080/myApp/myInterface/index.html
Interface: myInterface
CAPE CLEAR
Operation op dispatched successfully.
m
x 10101
y -42
op
application index
Created using CapeConnect HTML Generator 1.0 Copyright © 1999-2000, Cape Clear Software Ltd. All Rights Reserved www.capeclear.com
Done
Local intranet

Figure 14

```
<MetaData>
   <Interface name="Foo">
      <Operation name="op1" replyexpected="true">
         <requestopen-phase-generated>
            <![CDATA[
               <HTML>
               <HEAD>
               <META NAME="GENERATOR" CONTENT="CapeConnect HTML Generator 1.0">
               <LINK REL=StyleSheet HREF="/capeconnect/capeconnect.css"
               TYPE="text/css" MEDIA=screen>
               <TITLE>op1</TITLE>
               </HEAD>
               <BODY>
               ...
               ]>
         </requestopen-phase-generated>
            <Argument name="return_value" direction="return">
               <TypeSpec>
                  <BaseType name="long"/>
               </TypeSpec>
            <Argument name="arg1" direction="in">
               <TypeSpec>
                  <BaseType name="string"/>
                     <request-phase-generated depth="2">
                        <![CDATA[
                          <TR><TD><P><B>arg1</B><BR>
                          <INPUT TYPE="TEXT" NAME="arg1" ></P></TD></TR>
                        ]]>
                     </request-phase-generated>
               </TypeSpec>
            </Argument>
         <request-phase-generated>
            <![CDATA[
               </BODY>
               </HTML>
            ]]>
         </request-phase-generated>
         </Operation>
      </Interface>
   </NameSpace>
</MetaData>
```

Figure 15

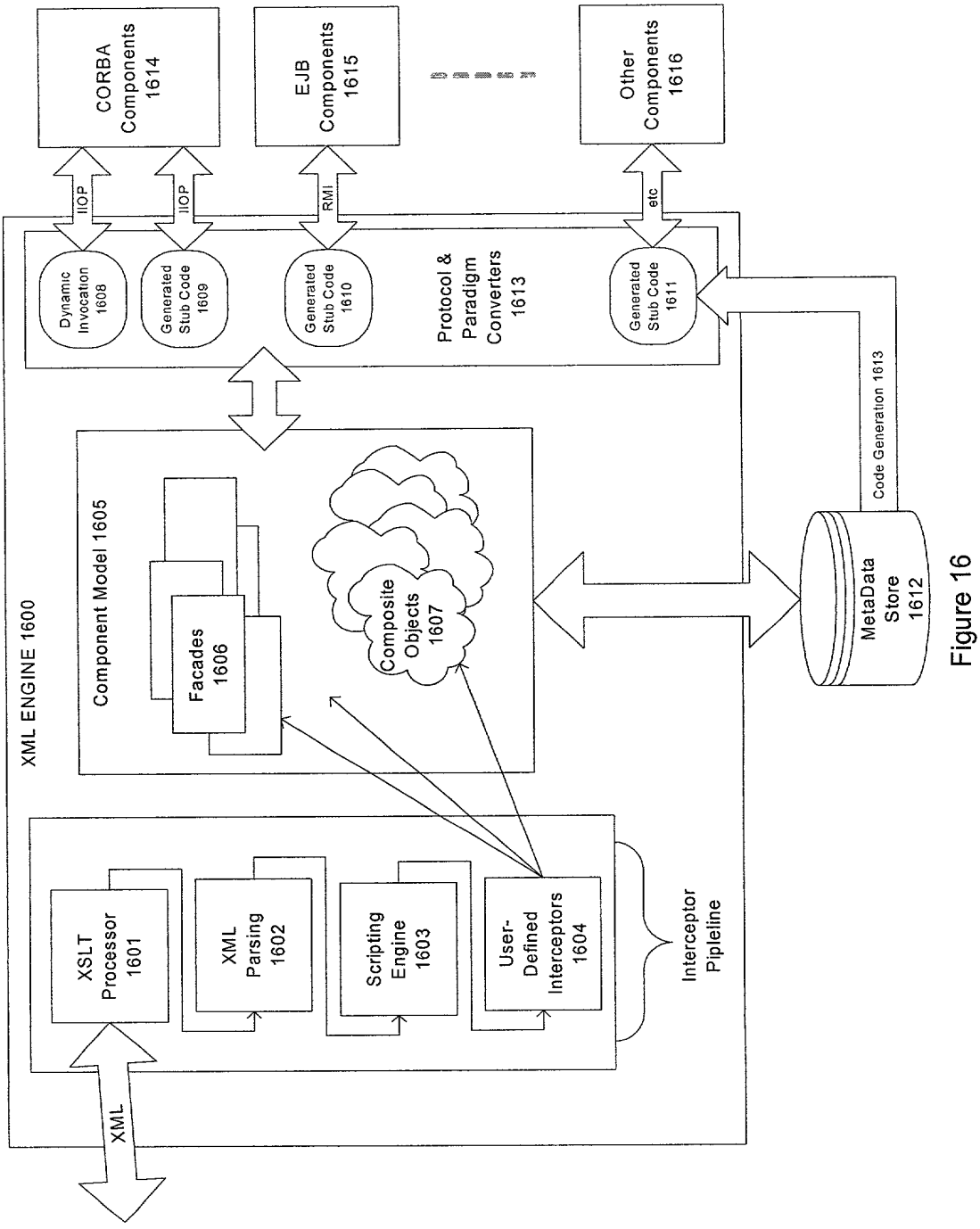
CORBA Components 1614
EJB Components 1615
Other Components 1616
IIOP
IIOP
RMI
etc
Dynamic Invocation 1608
Generated Stub Code 1609
Generated Stub Code 1610
Protocol & Paradigm Converters 1613
Generated Stub Code 1611
Code Generation 1613
XML ENGINE 1600
Component Model 1605
Facades 1606
Composite Objects 1607
MetaData Store 1612
XSLT Processor 1601
XML Parsing 1602
Scripting Engine 1603
User-Defined Interceptors 1604
Interceptor Pipleline
XML

Figure 16